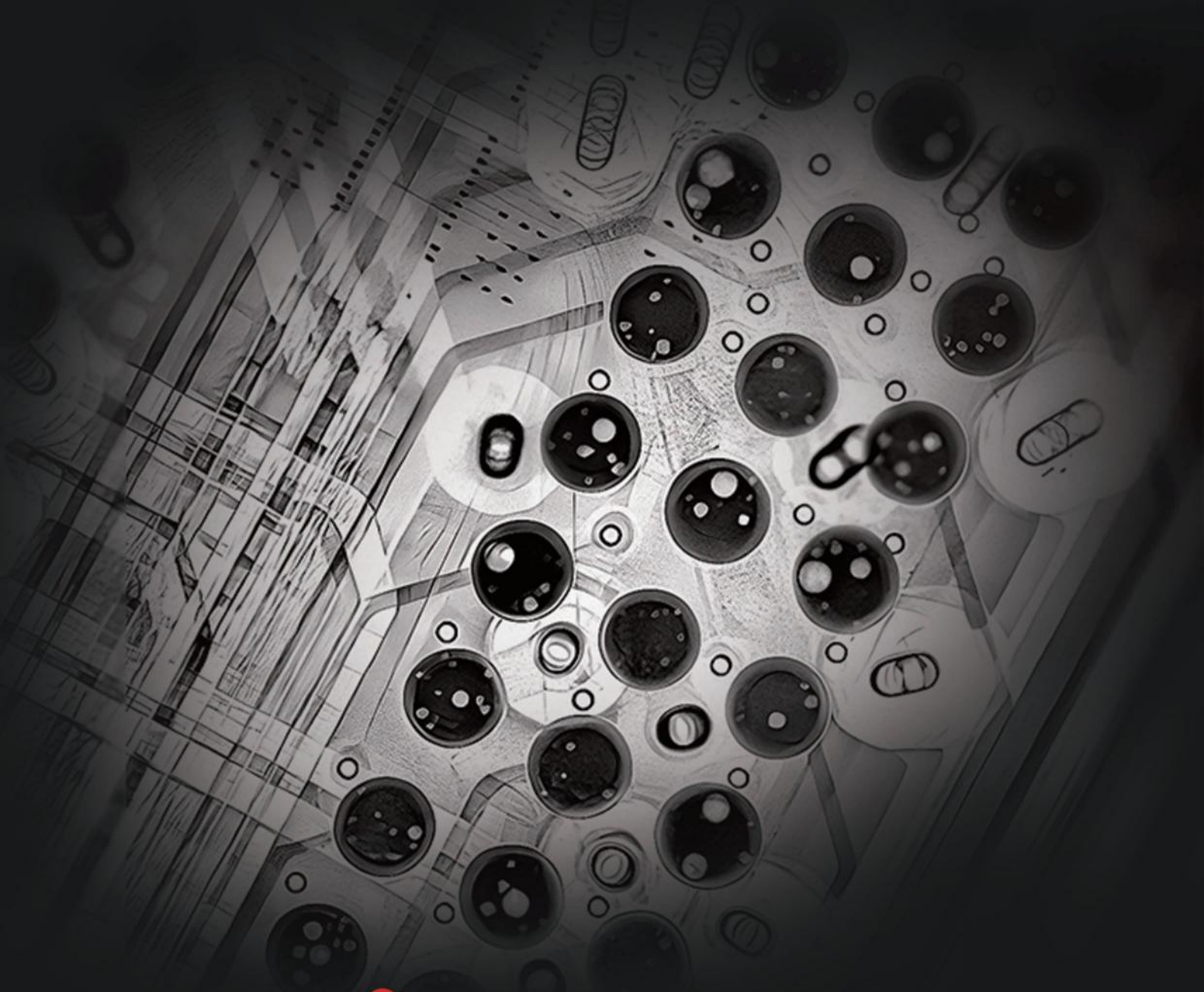


nectec

nectec.com

Inspection Machine series(X-RAY)

SHARE THE VALUE

TRANSFER THE BENEFIT

COMPANY PROFILE

Nectec has been devoted to providing all-in-one SMT solutions for years. We integrated the most valuable suppliers globally to help you solve any issues in the PCB assembly line.

All the options we can offer include PCB handling, placing, soldering, printing, inspection, conformal coating, and peripheral consumable series, etc. You can find out your favorite equipment along with complete purchase information quickly here.

The one-stop service that we have been focusing on contains strict quality control, offering attentive pre-sales service in real-time at 24/7 to remove any purchasing barriers and post-sales service to keep improving the customer satisfaction. Fast and efficient customer service support will begin when we received your first inquiry

ADVANTAGES

Product R&D

With our strong and talented R&D teams,we can let the best technology satisfy your needs in the most valuable prices.

Demo centers

We have set up demo centers separately in each different markets in theworld,which can enable our suppliers to demonstrate their productsolutions or technologies easily and effectively to our customers.

After-service support

We hired the service engineers globally who can help our customers to fixany technical problems through their rich experience and precise spokenEnglish.

Free on-site training

We offer on-site training for each customer for free by sending engineersto any customer locations.

Vast information sharing

Relying on this platform,any visitors who are in different roles in the supplychain can share their opinions and ideas on the particular dimensions.

NX-CT160

3D CT X-RAY

Introduction

The 3D X-RAY inspection system NX-CT160 is customized for chip technology, SMT, package inspection semiconductor and laboratory applications. 3D inspection of semiconductors such as BGAs, CSPs, Flip Chips,EDS, etc., as well as SMT soldering analysis, 3D tomography CT scanning system (Planar CT + Cone Beam CT).

Application

SMTCircuit board

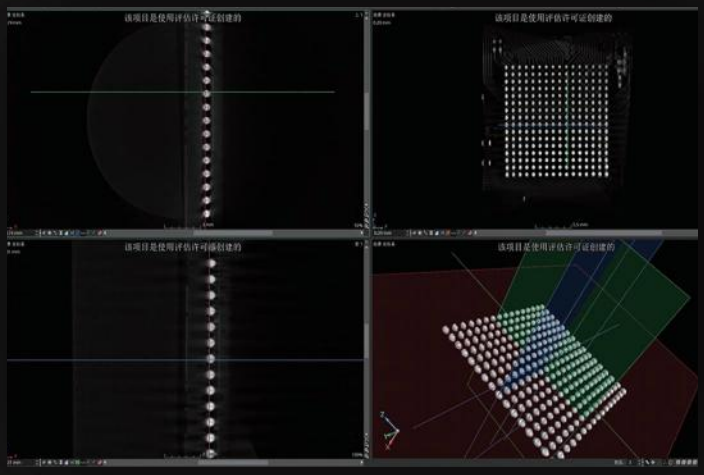
FPC soft board

Semiconductor devices

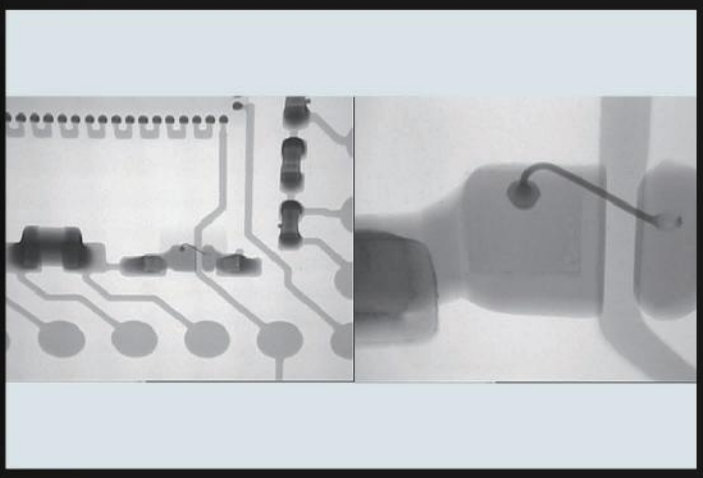
Precision structural components

Technical

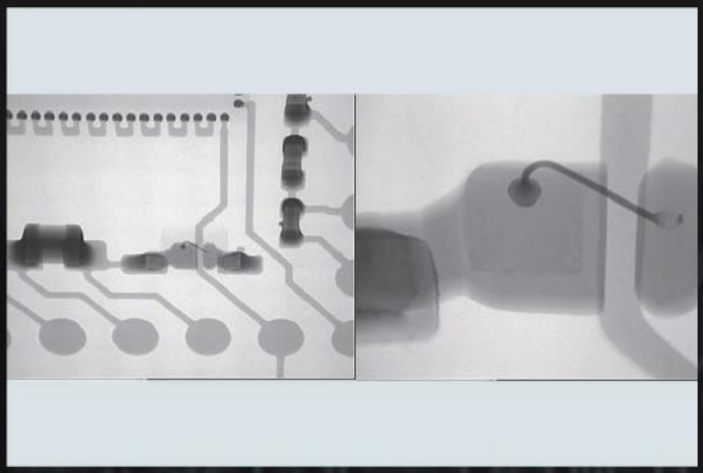
- Multi-angle image tracking system



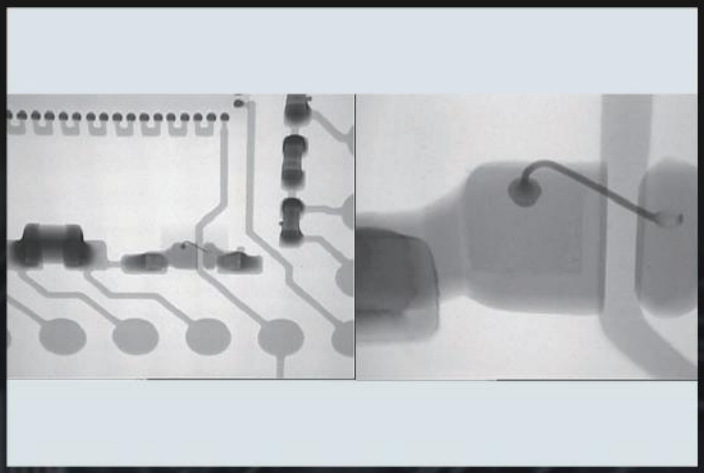
- The geometric magnification is up to 2100X



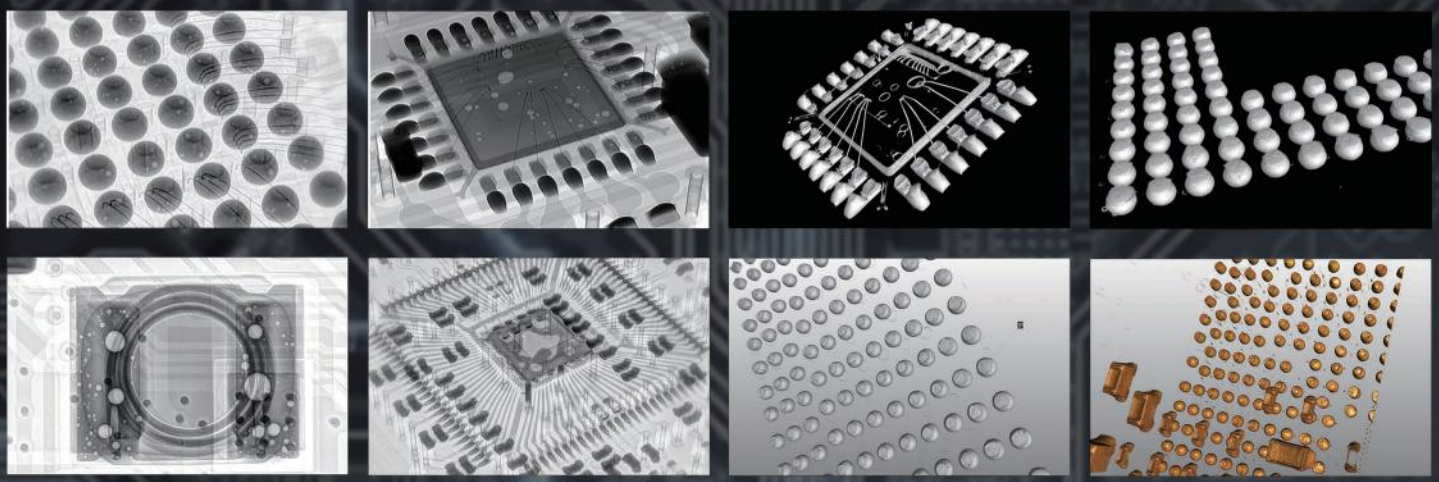
- Six-axis linkage 360 degree arbitrary viewing angle detection



- CNC(ComputerNumericalControl) programming positioning detection



Parameter



Performance

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to thefinal agreement.

System Magnification and Resolution	
Geometric magnification	2100x
Total magnification	>23000X
Detail resolution	Up to 0.35 microns
Submicron X-ray tube	
Types	Open micron tube, transmission tube head, 170 degree radiation Angle, colimator function
Maximum tube voltage	160KV
Maximum power	20W
Target	Non-toxic carrier tungsten target and can be rotated for multiple users
Filament	Tungsten wire, pre-tuned plug in structure, easy and quick to replace, within 20 minutes to complete
Vacuum system	Oil-free low vacuum pump + turbomolecular vacuum pump
Detector	1536 1536pixel
Control platform	X-ray automatic navigation system, can achieve intemal and extemal navigation
Overall structure	High precision anti-vibration, 5-axis synchronous drive
Maximum detection range	410mm*410mm
Maximum workpiece size/weight	510mm*510mm/5kg
Probe wnw triangle view rotated	Adjustable viewing Angle 70 degree, n x360 degree
Controls	Joystick control or mouse (manual mode) CNC programming Control(automatic mode)
Control AIDS	X-ray image navigation map, click to move function, click to enlarge function, Automatically maintain the center of vision function, laser positioning and aiming
Anti-collision system	Prevent the test sample from colliding with the ray tube
Image processing software	
ELT x|act base	Comprehensive X-ray image analysis software includes image contrast enhancement and fitering,measurement,CNC programming
BGA mode	BGA solder joint automatic detection function
VC mode	Automatic calculation of void area ratio, including multi-chip mounting void detection function
System scale (WxHxD)	1650mm*1680mm*1955mm (Excluding console and detachable rear extension)
Console height aadjustable	320mm
Maximum weight	About 3050kg
Radiation safety protection	Safety shielding room with lead steel protective structure and lead glass Windows, in accordance with Geman and American safety design standards for X-ray equipment
Radiation leakage dose rate	<1.0m Sv/h, in line with intemational standard
Hardware options	
Tlt/rotate gear	Tilt 70° and rotate n x 360° with a maximum workpiece weight of 5kg
Laser posting device	Cross laser wire
Square non-rotiatng platform	Test area to 510mm x 510mm

NX-E1L NX-E3L

LED,Semiconductor,Electronic Components And Other Parts Of Thisindustry

Features

- Used in semiconductor, SMT, DIP, electronic components, IC, BGA, CSP, flip chip X-ray detection;
- High resolution FPD can obtain high quality images, and the minimum 2um defects can be detected;
- CNC programming automatic positioning, small opening angle 45° tilt detection;
- Real-time navigation imaging, HDR image enhancement function;
- Measurement tools such as size, area, angle and curvature

Image

LED crystal misalignment | LED binding | LED binding cable | LED binding cable | The LED wafer has too many bubbles | LED copper column | Binding wire | Module IC

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

ltem	Model	NX-E1L	NX-E3L		
X-Ray Tube	Tube Style	Sealed tube	Sealed tube		
	Tube voltage	90kv	100kv		
	Tube current	0.2mA	0.15mA		
	Tube focus	5um	2um		
	Cooling mode	Air cooling	Air cooling		
	Geometric magnification time	125 (times)	300(times)		
Motion Control System	Axis x	1500mm	X-ray Tube	Axis x	400mm
	Axis Y	500mm		Axis Y	450mm
	Axis Z1	220mm		Axis Z	200mm
	Axis Z2	250mm		Axis R	45°tilt
Flat panel detector	Pixel size	85um			
	Pixelmatrix	1536*1536mm			
	Effective imaging area	130*130mm			
	Spatial resolution	5.8lp /mm			
	A/D conversion digits	16bit			

NX-EF NX-E1

SMT, SMT Assembly

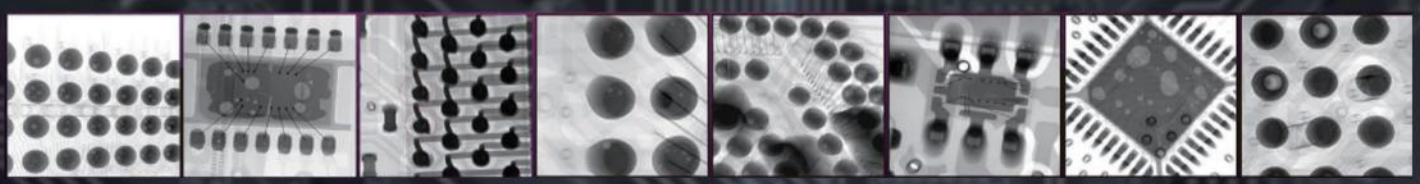
* Sample table rotates plus or minus 60 degree, Image automatic navigation function,global keyboard mouse operation positioning

* Configuration 360 degree rotation system, step positioning

Features

It is used to detect welding defects of electronic components such as PCB, SMT assembly, ic packaging, BGA. CSP, semiconductor, etc

Inspection items



Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

ltem	Model	NX-EF	NX-E1
X-Ray Tube	Tube Style	Sealed tube	Sealed tube
	Tube voltage	90kv	90kv
	Tube current	200uA	200uA
	Details resolution	5um	5um
	Cooling mode	Air Cooling	Air Cooling
	Geometric magnification time	125 (times)	125(times)
Flat panel detector	Pixel size	85um	85um
	Pixel matrix	1536*1536mm	1536*1536mm
	Effective imaging area	130*130mm	130*130mm
	Fps	20	20
	A/D conversion digits	16bit	16bit
Motion Control System	Axis X	340mm	400mm
	Axis Y	330mm	450mm
	Axis Z	300mm	300mm
	Axis R	The fixture rotates 360 degrees	Sample table rotates ± 60°

NX-E6LP

Fully Automated Online X-Ray

Features

Equipment overview :

Used for detecting BGA and chip components; Nickel plate detection of metal plate and FPC welding parts, calculation of bubble percentage, size, area measurement, analysis of internal defects such as low tin and virtual soldering in products.

Functions and Feature:

- Orbital online inspection
- Auto detecting and Analysing for Ok & NG Components)
- Support customized access to MES/ERP system
- Accurate control, CNC Programming Automatic Positioning
- Rework database management supports review and generation of data report

Inspection items

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

ltem	Model	NX-E6LP
X-Ray Tube	Tube Style	Sealed tube
	Tube voltage	90 kV(110KV、130KV)90kV(Optional 100KV, 130KV)
	Tube current	200uA
	Cooling mode	Air Cooling
	CtrrGeometry magnification time	50X-300X
	Details resolution	Gold Line 5 micron
	Target target material	Wolfram
Flat panel detector	Pixel matrix	Full resolution mode: 1024*1024
	Effective imaging area	157*157mm
	Scintillator	Cesium iodide
	Refresh rate	9.4fps(1021*1024)30fps(512*512)
	Data interface	Within 1,000 gigabit network
	A/D Conversion	16Bit
	Track regulation	50-350mm
X-RAY surveyedarea	Connection height	900+10mm
	location mode	CNC fixed position
	Access mode (whendocking with the production line)	Go left and right
	Location origin	Multiple Mark points calculate the corrected locations
	Orientation system	Gervo motor, precision wire rod high-speed positioning
	QR code identification	Manual code scanning (automatic code scanning option)

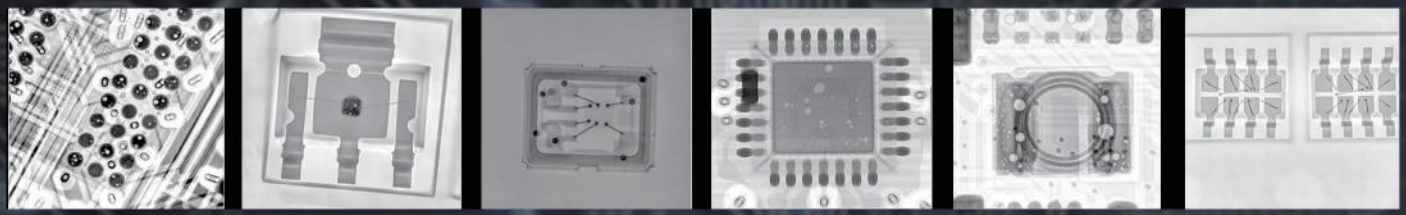
NX-E3

SMT, SMT Assembly

Features

- Strong penetrating ray source combined with HD FPD to meet universal inspection requirements
- The detector tilts 70°, the stage rotates 360° horizontally, and the six-axis linkage achieves all-round control and detection
- High definition navigation images, fast and accurate product positioning
- Configure HDR image enhancement, size, area, angular curvature and other measurement tools

Inspection items



Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

ltem	Model	NX-E3
X-Ray Tube	Tube Style	Sealed tube
	Tube voltage	130KV
	Tube current	320uA
	Tube focus size	2um
	Cooling mode	Air Cooling
	Geometric magnification	300X
Flat panel detector	Pixel size	85um
	Pixel matrix	1536*1536mm
	Effective imaging area	130*130mm
	Frame Rates	20fps
	A/D conversion digits	16bit
Motion Control System	Movement Control	Keypad, Mouse
	X axis	500mm
	Y axis	500mm
	Z1 axis	300mm
	Z2 axis	300mm
	R axis	Tilt 70°
	Oblique Views	The sample table rotates horizontally 360°

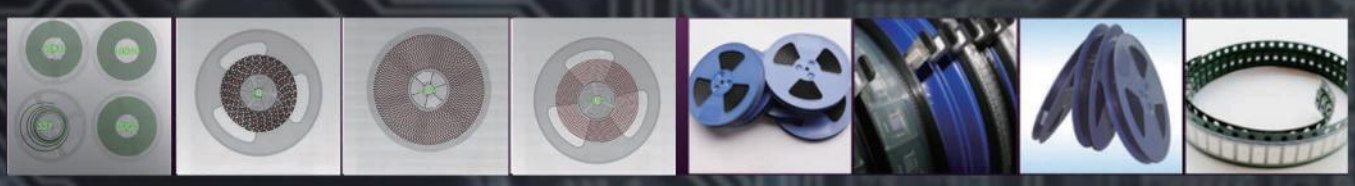
NX-C1

X-Ray Automatic Counting Machine

Features

- Can cover all the resistance and capacitance materials and IC materials of the off-line X-Ray point system, can achieve a variety of types of material tray rapid counting and inventory.
- Can be 7-17 inch Tray/ Jedec Tray/C moisture sensitive bag and other materials for fast and accurate detection
- Convenient personnel operation, reduce working space
- Intelligent anti-interference counting algorithm, intelligent identification of single disk or 1-4 disk materials, 8 seconds can be detected
- Plate induction, anti-mislabeling
- Support to connect with ERP, MES and WMS system

Inspection items



Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

ltem	Model	NX-C1
X-Ray Tube	Tube Style	Sealed tube
	Tube voltage	80kv
	Tube current	150uA
Flat panel detector	FPD	Hao bo
	lmaging area	422mm*422mm
	Pixel size	150um
	Gamma	3072*3072 Pixels
	Maximum size of the disk	16bits
Test items and dimensions	Disk minimum size	380mm
	Maximum thickness of disk	180mm
	Disk minimum thickness	85mm
	Compatible with a minimum element	3mm
	Count time	01005
	Count accuracy	4 disc、1disc/7S
	Pixel matrix	0100599.8% 0201.99.9%
		01005 Up to 99.8%, 99.9%, 0201 or above

NX-C2

X-Ray Automatic Counting Machine

Features

A fully automatic X-Ray point system that covers all resistive and capacitive materials and IC materials enables rapid counting and inventory of various types of trays

- Fast, high precision chip counting, reduce labor costs
- Non-contact counting, no chip damage or loss
- The feeding method can choose 1-4 stations
- Six-axis robot arm with machine vision, to achieve automatic labeling and material grabbing. Compared with the module, it is more flexible and efficient, with high recognition accuracy, and can cover the original label up to 0.01mm;
- It can be connected to AGV loading, to achieve unmanned loading;
- Support to connect with ERP, MES and WMS system;
- The equipment without NG warehouse has advantages in occupying space;

Inspection items

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

ltem	Model	NX-C2
X-Ray Tube	Tube voltage	80KV
	Tube current	150uA
Flat panel detector	lmaging area	427mm*427mm
	Pixel size	48um-75um about48um-75um
	Pixel matrix	3072*3072 Pixels
Test items and dimensions	Maximum size of the disk	380mm
	Disk minimum size	180mm
	Maximum thickness of disk	85mm
	Disk minimum thickness	3mm
	Compatible with a minimum element	300 /H300 disc/H
	Count time	0100599.8% 020199.9%
	Count accuracy	01005 Up to 99.8% 0201 up to 99.9%

NX-M1

Industrial Casting X-ray Inspection Equipment

Features

The equipment is used for non-destructive testing of various lightweight flat plate products such as gold and Li castings, auto parts, plastic products and rubber products

- Small precision casting inspection,cost-effective
- With high integration design, compact structure and space saving
- Small focus size, with software HDR processing function

Inspection items

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
X-Ray Source	Tube type	Closed tube
	Tube Voltage	160kv
	Tube current	250uA
	Tube power	400W
	Detail resolution	0.4-0.8mm
	Cooling method	Air Cooling
Flat Panel Detector	Effective imaging area	427mm*427mm
	Pixel size	139um
	A/D Conversion	16bit
Motion Control System	Motion control	Keyboard,mouse
	X-axis	400mm
	Y-axis	400mm
	Sample table	500*500mm
	Effective detection area	400*400mm

NX-M2

Industrial Casting X-ray Inspection Equipment

Features

The equipment is used to detect all kinds of small and medium-sized products such as metal castings, welding parts, hardware products, plastic products, rubber products, ceramic bodies, etc. It is equipped with automatic detection system, intelligent discr-imination automatic analysis, and output analysis report.

- The motion performance is fast, smooth, and the detection efficiency is high
- Real-time dynamic imaging, software with HDR image enhancement function
- Platform 360' rotation, no dead Angle detection
- It has a wide range of applicability and can realize the detection of different workpieces
- Can have defect recognition function (ADR)

Image

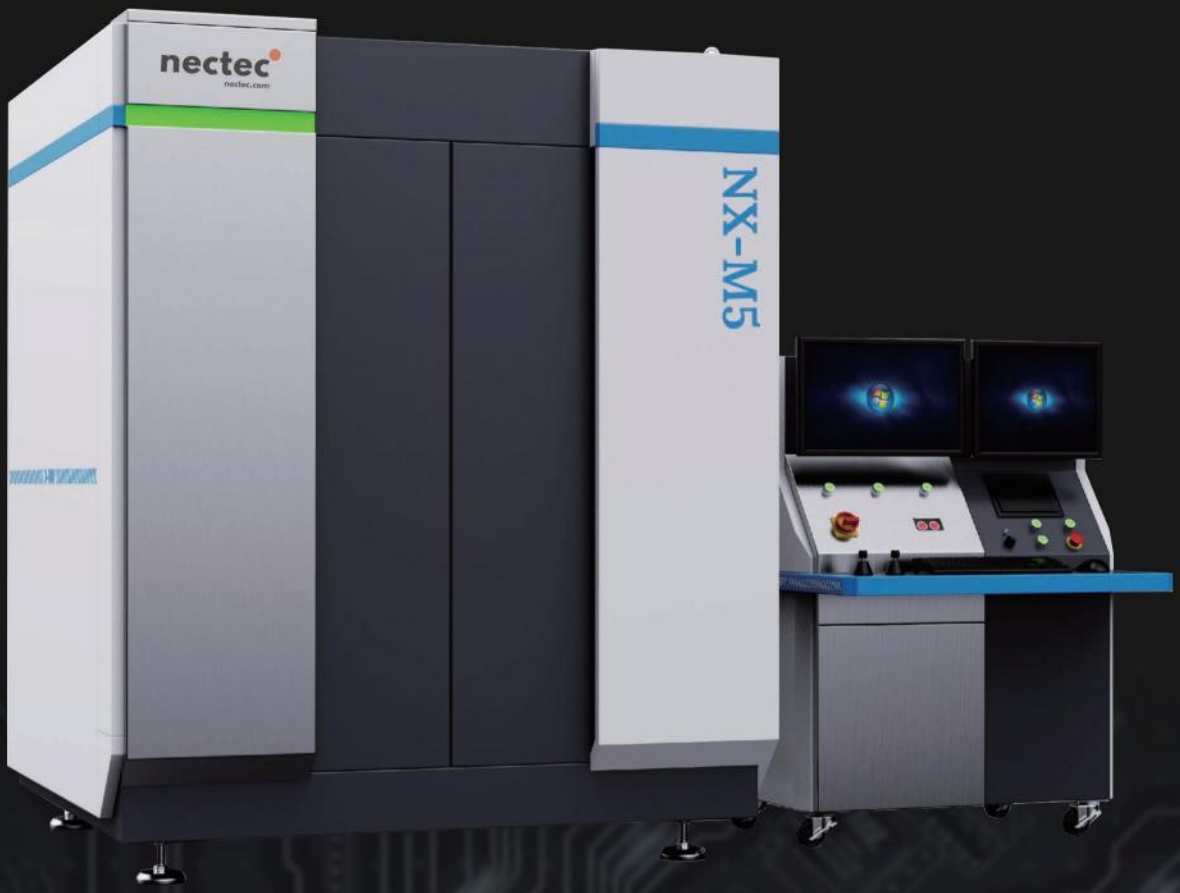
Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
X-Ray Source	Tube type	Closed tube
	Tube Voltage	160kv
	Tube current	250uA
	Tube power	400W
	Detail resolution	0.4-0.8mm
	Cooling method	Air Cooling
Flat Panel Detector	Effective imaging area	427mm*427mm
	Pixel size	139um
	A/D Conversion	16bit
Motion Control System	Motion control	Keyboard,mouse,joystick
	Z-axis	650mm
	X-axis	400mm
	Y-axis	440mm
	U-axis	±35°tilt
	R -axis	Horizontal 360 ° rotation
	Maximum bearing capacity	30KG

NX-M5

Industrial Casting X-ray Inspection Equipment



Features

The equipment is suitable for auto parts non-destructive testing, casting non-destructive testing, weld non-destructive testing, aerospace non-destructive testing and other related industries. It can meet the inspection needs of small workpiece inspection,small and medium workpiece inspection, small and medium workpiece inspection, thin wall light workpiece inspection, thickness gray castiron inspection and so on. It can quickly and accurately detect various defects of tires, wheels and other castings, effectively ensuring product quality and safety.

- The motion performance is fast, smooth, and the detection efficiency is high
- It has a wide range of applicability and can realize the detection of various workpieces
- The ial pamnd derecdor and x-nay tube can be tined.the phatom canbe rotated 360',and hene is mo dead Angle desceation
- Large internal detection space,large objects can be detected;
- Real-time dynamic imaging, sofware with HDR image enhancement function

Inspection items

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
X-Ray Source	Tube type	Closed tube
	Tube Voltage	160kv
	Tube current	250uA
	Tube power	400W
	Detail resolution	0.4-0.8mm
	Cooling method	Air Cooling
Flat Panel Detector	Effective imaging area	427mm*427mm
	Pixel size	139um
	A/D Conversion	16bit
Motion Control System	Motion control	Keyboard,mouse,joystick
	Z-axis	800mm
	X-axis	500mm
	Y-axis	500mm
	R-axis	Horizontal 360 ° rotation
	Maximum bearing capacity	100KG
X-Ray Source	X-ray rotatiom Angle	Coaxial tilt of 45°can be achieved

NX-M5C

High Resolution X-ray Nondestructive Flaw Detector

Features

The on-line X-ray inspection machine is used for automatic inspection of auto parts. The automatic optical inspection and screening instrument developed on the basis of image detection technology system uses X-ray perspective to convert visible light images and uses dry Meg network to quickly input the image information of the workpiece to the PC host computer for high-definition imaging, automatic positioning and image processing. For pores and cracks in the image, the area and proportion of defects are automatically calculated through the measurement function to determine qualified or defective products. The measured data and pictures are stored simultaneously.

- Advantages: automatic feeding, automatic positioning, automatic measurement, automatic judgment,automatic storage of product images and measurement data, at any time.
- The test results are stable,corect and consistent
- The operation is simple, and the testing standard of new products only takes 30 minutes
- Test results can be set freely (save path, picture format, qualified or unqualified pictures)

Inspection items

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
Light Tube	Tube type	Closed tube
	Tube Voltage	160kv
	Tube current	250uA
	Tube power	400W
	Tube focusing size	0.4-0.8mm
	Cooling method	Air Cooling
Dynamic Flat Plate Receiver	Field of view	433.7mm*433.7mm
	Pixel array	Full distribution rate mode：1408*1408
		2*2Bining mode：1408*1408
		4*4Bining mode：704*704
	A/D Conversion	16bit
Motion Displacement	Pallet size	400*300mm
	Z-axis	220mm（Up）
	U-axis	30°
	Y-axis	280mm（front and back）
	Maximum bearing capacity	30KG
X-Ray Shield Box	Size	3760*2060*2130（L*W*H）
	Weight	About 3500kg

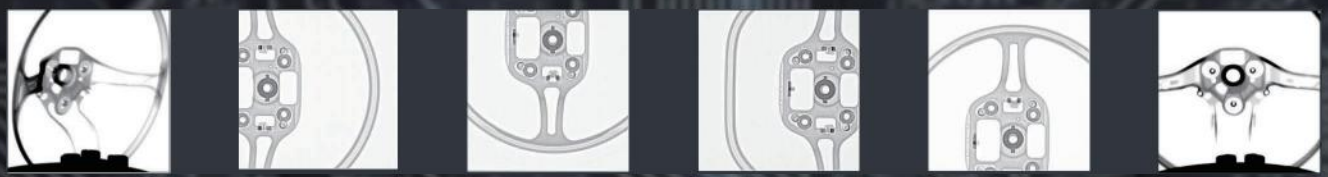
NX-MT

X-Ray Automatic Counting Machine

Features

Used for non-destructive testing of bubbles, pores and foreign bodies in automobile steering wheel and various small castings; Equipped with automatic testing software, automatically determine good and bad products; The workpiece of the pallet detection platform can be rotated 360° and detected from multiple angles;

Inspection items



Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
Light Tube	Tube type	Closed tube
	Tube Voltage	160kv
	Tube current	250uA
	Tube power	50mm（AL)
	Detail resolution	D=0.4mm
	Cooling method	Air Cooling
Flat Panel Detector	Effective imaging area	427mm*427mm
	Pixel size	139um
	A/D Conversion	16bit
Sample Table	X-axis	420mm
	Y-axis	480mm
	Z-axis	360mm
	R-axis	Horizontal 360 ° rotation
	Maximum bearing capacity	10KG

NX-B

Battery Offline Testing Equipment

Features

This equipment is used for semi-automatic on-line inspection of the morphology of power battery electrode lugs,and detects the morphology of the electorde lugs by directly looking thr-ough the protected image of the battery end.

- Performance : offline manual/semi-automatic inspection
- Detecting table automatically in and out, easy loading and unloading
- Built-in horizontal 360 ° rotating platform, can detect the four corners of the battery
- Detect the maximum battery size 500* 200* 20mm
- Measurement mode : automatic measurement, automatic capture measurement area, automatic navigation, automatic discrimination, manua can be set up to measure the area after the automatic capture measurement

Inspection items

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
Light Tube	Tube type	Closed tube
	Tube Voltage	90kv
	Tube Current	200uA
	Focus Size	5um
	Cooling Method	Air Cooling
Flat Panel Detector	Pixel Size	85um
	Pixel Matrix	1536*1536mm
	Effective Imaging Area	130*130mm
	Fps / Rate	20
	Number of A/D bits	16bit

NX-BLI

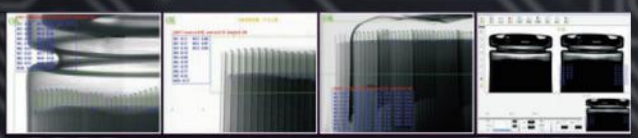
On-line X-RAY Testinge Quipment For Cylindrical Battery

Features

The device is used to detect the intenal structure of the cylindrical battery ear and the coating of the positive and negative electrode sheets, the condition of the negative electrode and the shell wall in the battery (spacing,contact distance,bending state of the pole ear etc.)

- Suitable for 18~26 series cylindrical battery detection
- High speed positioning transmission mechanism design, efficient and stable
- Modular standardized design,with strong expansion
- The automatic loading/unloading structure can be expanded according to the demand
- It can be connected to the user's automatic production line to achieve unatended operation
- Automatic determination, data storage, identification,screeningand isolation of defective producs, to achieve automatic control of the entire test process
- Maximum capacity: 60-120PPM;

Inspection items



Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
Light Tube	Tube type	Closed tube
	Tube Voltage	90kv
	Tube Current	200uA
	Focus Size	5um
	Cooling Method	Air Cooling
Flat Panel Detector	Pixel Size	85um
	Pixel Matrix	1536*1536mm
	Effective Imaging Area	130*130mm
	Fps / Rate	20
	Number of A/D bits	16bit

NX-BLD

Automatic Laminated Battery X-RAY Detection

Features

This equipment is used for power stacked cell X-ray on line fully automatic inspection, the battery positive and negative electrode universal sheet size,stacking deviation and other defects of the data detection.

- High inspection efficiency,suitable for batch full inspection
- Modular design, good scalability, can be interfaced with the production line.
- Automatic loading and unloading, automatic sorting of good and defective products
- Configuration of self-developed lithium battery online testing sofware system;

Inspection items

Specification

Note: The above information only represents general descriptions and characteristics, which may change with technological advancement and equipment upgrades. Specific parameters are subject to the final agreement.

Projects	Mode	Technical Parameters
Light Tube	Tube type	Closed tube
	Tube Voltage	90kv
	Tube Current	200uA
	Focus Size	5um
	Cooling Method	Air Cooling
Flat Panel Detector	Pixel Size	85um
	Pixel Matrix	1536*1536mm
	Effective Imaging Area	130*130mm
	Fps / Rate	20
	Number of A/D bits	16bit